AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method comprising:

defining a graphical user interface having a plurality of graphical input elements arranged in a matrix configuration;

defining a first cell, the first cell comprising a first parameter representing a first haptic effect;

assigning the first cell to a first graphical input element in the matrix configuration;

assigning the first cell to a second graphical input element in the matrix configuration;

receiving a sensor signal from a sensor, the sensor configured to detect a movement of a user manipulatable object of an interface device and the sensor signal associated with the movement;

determining a position of a graphical object based at least in part on the sensor signal;

determining an interaction between the position of the graphical object and at least one of the plurality of graphical input elements; and

outputting the first haptic effect based at least in part on the first parameter and the interaction ~~position~~, the haptic effect configured to resist or assist the movement of the user manipulatable object.

2. (Previously Presented) The method of claim 1, further comprising communicating the first cell from a first processor to a second processor.

3. (Previously Presented) The method of claim 2, further comprising:

defining a second cell, the second cell comprising a second parameter representing a second haptic effect;

communicating the second cell from the first processor to the second processor; and

assigning the second cell to a third input element in the matrix configuration.

4. (Previously Presented) The method of claim 3, wherein the first and second cells are defined by the first processor and the first, second, and third input elements are assigned by the second processor.

5. (Previously Presented) The method of claim 3, wherein the third input element is disposed between the first and second input elements.

6. (Previously Presented) The method of claim 1, wherein the matrix configuration comprises a square shape.

7. (Previously Presented) The method of claim 1, wherein the matrix configuration comprises a circular shape.

8. (Original) The method of claim 1, wherein the first cell comprises a first detent and the second cell comprises a second detent.

9. (Previously Presented) The method of claim 3, further comprising providing an actuator in communication with the first, second, and third input elements, the actuator operable to provide a computer-modulated force to the first, second, and third input elements.

10. (Original) The method of claim 2, wherein the second processor is disposed remotely from the first processor.

11. (Previously Presented) The method of claim 1, wherein the first cell comprises an arc and first and second edges; and wherein the haptic effect comprises a plurality of force vectors within the first cell, the force vectors directed outward from a centerline of the first cell toward the first and second edges.

12. (Previously Presented) The switch of claim 16, wherein the switch comprises a circular shape.

13. (Previously Presented) The switch of claim 16, wherein the switch comprises an eight-way switch, the eight-way switch operable to select a channel about a first axis.

14. (Previously Presented) The switch of claim 16, further comprising providing a biasing element proximate to a center of the switch.

15. (Previously Presented) The switch of claim 16, further comprising providing a detent proximate to a radius of the switch.

16. (Previously Presented) A switch comprising:

a sensor;

an actuator configured to output a haptic effect; and

a processor in communication with the sensor and the actuator, the processor configured to receive a sensor signal from the sensor, and to cause the actuator to generate a haptic effect based at least in part on the sensor signal, wherein the haptic effect is based on a plurality of detents defining:

a first primary channel defined along a first axis,

a second primary channel defined along a second axis,

a first secondary channel proximate to the first primary channel, and

a second secondary channel proximate to the second primary channel,

the plurality of detents configured to substantially constrain movement of an interface device to one of the first primary channel, the second primary channel, the first secondary channel, or the second secondary channel, wherein:

each channel is a substantially one-dimensional channel,

the first primary channel intersects the second primary channel,

the first secondary channel intersects one of the first or second primary channel, and

the second secondary channel intersects one of the first or second primary channels or the first secondary channel.

17. (Previously Presented) The switch of claim 16, further comprising:

a third primary channel defined substantially co-axial with the first primary channel;

a fourth primary channel defined substantially co-axial with the second primary channel;

a third secondary channel defined proximate to the third primary channel; and

a fourth secondary channel defined proximate to the fourth primary channel.

18. (Previously Presented) The switch of claim 17, wherein the first axis is substantially orthogonal to the second axis.

19. (Previously Presented) The switch of claim 16, wherein the first secondary channel is oblique to the first primary channel; and the second secondary channel is oblique to the second primary channel.

20. (Previously Presented) The switch of claim 16, wherein the first secondary channel is substantially orthogonal to the first primary channel; and the second secondary channel is substantially orthogonal to the second primary channel.

21. (Previously Presented) The switch of claim 17, wherein the third secondary channel is oblique to the third primary channel; and the fourth secondary channel is oblique to the fourth primary channel.

22. (Previously Presented) The switch of claim 17, wherein the third secondary channel is substantially orthogonal to the third primary channel; and the fourth secondary channel is substantially orthogonal to the fourth primary channel.

23. (Currently Amended) A computer-readable medium comprising program code, the program code comprising:

program code for defining a graphical user interface having a plurality of graphical input elements arranged in a matrix configuration;

program code for defining a first cell, the first cell comprising a first parameter representing a first haptic effect;

program code for assigning the first cell to a first graphical input element in the matrix configuration;

program code for assigning the first cell to a second graphical input element in the matrix configuration;

program code for receiving a sensor signal from a sensor, the sensor configured to detect a movement of a user manipulatable object of an interface device and the sensor signal associated with the movement;

program code for determining an interaction between the position of the graphical object and at least one of the plurality of graphical input elements; and

program code for outputting the first haptic effect based at least in part on the first parameter and the interaction ~~position~~, the haptic effect configured to resist or assist the movement of the user manipulatable object.

24. (Previously Presented) The computer-readable medium of claim 23, further comprising program code for communicating the first cell from a first processor to a second processor.

25. (Previously Presented) The computer-readable medium of claim 24, further comprising:

program code for defining a second cell, the second cell comprising a second parameter representing a second haptic effect;

program code for communicating the second cell from the first processor to the second processor; and